

IN THE CLAIMS:

Please amend claims 1, 4 and 6-9 and add new claim 91. The following listing of claims will replace all prior versions in the application:

1. (Currently Amended) An analyte sensor for implantation in a body, the sensor comprising:

a substrate with notches cut in the substrate to form a necked down region in the substrate and a non-necked down region in the substrate wherein the non-necked down region is adapted for placement within the body; and

at least one sensor electrode formed from one or more conductive layers, wherein the notches cut in the substrate do not expose any sensor electrode to analytes.

2. (Previously Presented) The sensor in accordance with claim 1, wherein the thickness of the substrate ranges from approximately 25 μ to 350 μ .

3. (Previously Presented) The sensor in accordance with claim 1, wherein the thickness of the substrate ranges from 5 μ to 750 μ .

4. (Currently Amended) A sensor assembly for use with the sensor in accordance with claim 1; further including:

a slotted needle having a slot; and
wherein the notches creating the necked down region that allows the substrate to slide into the slotted needle that has the slot narrow enough to permit passage of the necked down region, but prevents the non-necked down region of the substrate from pulling out of the slotted needle through the slot.

5. (Previously Presented) The sensor assembly in accordance with claim 4, wherein the slot of the slotted needle permits the necked down region of the substrate to slide down the slot.

6. (Currently Amended) The sensor in accordance with claim 1, wherein a width of the substrate in the non-necked down region portion is sized to fit within a slotted needle having a diameter smaller than 21 gauge.

7. (Currently Amended) The sensor in accordance with claim 1 6, wherein a width of the substrate in the non-necked down region portion is sized to fit within a slotted needle having a diameter smaller than 22 gauge.

8. (Currently Amended) The sensor in accordance with claim 1 7, wherein a width of the substrate in the non-necked down region portion is sized to fit within a slotted needle having a diameter smaller than 23 gauge.

9. (Currently Amended) The sensor in accordance with claim 1 8, wherein a width of the substrate in the non-necked down region portion is sized to fit within a slotted needle having a diameter smaller than 24 gauge.

10. (Previously Presented) The sensor in accordance with claim 1, wherein at least one of the at least one sensor electrode is formed on a first surface of the substrate.

11. (Previously Presented) The sensor in accordance with claim 10, wherein all of the at least one sensor electrode are only formed on the first surface.

12. (Previously Presented) The sensor in accordance with claim 10, wherein at least another one of the at least one sensor electrodes is formed on a second surface of the substrate.

13. (Previously Presented) The sensor in accordance with claim 12, wherein a third one of the at least one sensor electrode is a reference electrode configured to contact a skin surface.

14.-88. (Cancelled)

89. (Previously Presented) A sensor set comprising:
a) a mounting base adapted for mounting onto a patient's skin;
b) the sensor as claimed in claim 1; and
c) an insertion needle carried by the mounting base to protrude from the mounting base and having at least a portion of the sensor nested within the insertion needle, the insertion needle defining a longitudinally extending slot along one side to permit sliding withdrawal of the insertion needle from the mounting base and the nested portion of the sensor and to accept the necked down region of the substrate.

90. (Previously presented) The sensor of claim 1, wherein the notches are cut in the width of the substrate to form the necked down region of the substrate.

91. (New) An analyte sensor for implantation in a body, the sensor comprising:
a substrate with notches cut in the substrate to form a necked down region in the substrate and a non-necked down region in the substrate wherein the non-necked down region is adapted for placement within the body; and
at least one sensor electrode formed from one or more conductive layers,
wherein the notches cut in the substrate do not expose any sensor electrode to analytes,
wherein the sensor is adapted for use with a slotted needle having a slot, and
wherein the notches cut in the substrate allow the substrate to slide into the slotted needle, such that the notches prevent the non-necked down region of the substrate from pulling out of the slotted needle through the slot.